DATA SHEET

DXLink™ HDMI Multimode Fiber Receiver, Duplex

DXLF-HDMIRX-MM-D (FG1010-562)

Overview

The DXLink HDMI Fiber Receiver features built-in SmartScale® Technology to deliver HDMI with HDCP that is perfectly scaled for each connected display automatically, eliminating the integration challenges that can occur when sources and displays have different optimal resolutions. It accepts audio, video, control and Ethernet over multimode fiber from up to 300 meters. Mount the low-profile DXLink Fiber Receiver behind a display or above a ceiling mounted projector and control it using the built in RS-232 or IR ports. Plus monitor the connected display's settings, and send IR control signals to the Enova DGX Digital Media Switcher with integrated NetLinx® control back to the source device.

COMMON APPLICATIONS

The ideal solution for any destination display or projector designed into an Enova DGX integrated system that requires the distance capabilities and inherent security of fiber – or both; including campus-wide distribution of sources that are shared between classrooms, secure military applications, casinos, arenas and museums. Directly connect LCDs, plasmas and projectors using the HDMI output connection while delivering room audio via the stereo audio output.

FEATURES

- **HDCP Compliance Over Fiber** – Transmit HDCP compliant video including HDMI up to 300 m
- **Industry Leading Data Rate** – DXLink is leading the way with an optical transport rate of 10 Gbps
- **SmartScale® Technology** – Automatically responds to the display's declared EDID information and scales the video to the best resolution and video parameters for that display without manual setup; this prevents inferior video quality when sources are forced to lower resolutions to support the least capable display in the system
- **Secure and Isolated** – Fiber inherently provides extra security and electrical isolation making it the transport method of choice for many mission-critical secure environments
- **InstaGate Pro® Technology** – Easily integrate HDCP into system designs and enjoy hassle free matrix switching to all compliant displays, no tools, no delays and no key constraints – it just works
- **Native NetLinx® Control Everywhere** – Control connected source devices using the built-in IR and RS-232 ports
- **Field Serviceable Fiber Modules** – Easily remove and replace SFP modules in the field
- **Ethernet Connectivity** – Provides ICSLan Ethernet support at the Receiver – add Ethernet connectivity to a Touch Panel, plug in a WAP or stream IP audio/video to a Ethernet enabled source device
- **IR Receiver** – Send IR commands back to the Enova DGX to control source equipment using an IR remote

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SPECIFICATIONS

GENERAL	
Dimensions (HWD)	1” x 8 3/4” x 5 1/5” (2.54 x 22.12 cm x 13.08 cm)
Weight	Approx. 1.1 lb (0.50 kg) Shipping Weight: Approx. 2.20 lb (1.00 kg)
Shipping Weight	Approx. 2.2 lb (1 kg)
MTBF	124,232 hours
Noise Level	TBA
Airflow	TBA
Mounting Options	Compatible V Style mounting options: •AVB-VSTYLE-RMK-FILL-1U, V Style Module Rack Mounting Tray with Fill Plates (FG1010-721) •AVB-VSTYLE-RMK-1U, V Style Module Rack Mounting Tray (FG1010-720) •AVB-VSTYLE-SURFACE-MNT, V Style Single Module Surface Mount Brackets (FG1010-722) •AVB-VSTYLE-POLE-MNT, V Style Single Module Pole Mounting Kit (FG1010-723)
Regulatory Compliance	•Class 1 Eye safe per requirements of IEC 60825-1 / CDRH •RoHS / WEEE Compliant
Included Accessories	Ships with a desktop power supply with power cord
Optional Accessories	•AVB-VSTYLE-RMK-FILL-1U, V Style Module Rack Mounting Tray with Fill Plates (FG1010-721) •AVB-VSTYLE-RMK-1U, V Style Module Rack Mounting Tray (FG1010-720) •AVB-VSTYLE-SURFACE-MNT, V Style Single Module Surface Mount Brackets (FG1010-722) •AVB-VSTYLE-POLE-MNT, V Style Single Module Pole Mounting Kit (FG1010-723) •CC-NIRC, NetLinx IR Emitter Cable (FG10-000-11) •IR03, External IR Receiver Module (FG-IR03)
Compatible AMX Products	•Enova DGX 8/16/32/64 Digital Media Switchers with ENOVADGX-VO-DXLINK-MMF-D, Enova DGX DXLink Mutimode Fiber Output Board, Duplex (FG1058-632) installed

ACTIVE POWER REQUIREMENTS	
AC Power	TBA
Power Consumption (Max)	TBA
Power Connector	TBA

POWER SUPPLY	
External, Included	Each HDMI RX ships with a desktop power supply with power cord

ENVIRONMENTAL	
Temperature (Operating)	32° to 104° F (0° to 40° C)
Temperature (Storage)	-22° to 158° F (-30° to 70° C)
Humidity (Operating)	5% to 85% RH (non-condensing)
Humidity (Storage)	0% to 90% RH (non-condensing)
Heat Dissipation (On)	TBA

ETHERNET	
Ethernet Connection	(1) RJ-45, TCP/IP Port (ICS LAN 10/100)

DXLINK FIBER	
Fiber Connector	LC Duplex conforming to ANSI TIA/EAI 604-10 (FOCIS 10A)
Fiber Cable Type	OM3 50/125µm
Fiber Cable Length	300m (984 ft)
Transport Layer Throughput	10.3125 Gbps
Fiber Transceiver Type	10G SFP+
Optical Wavelength	850 nm
Optical Budget	6.8 dB (typical), 3.2 dB (stressed) between DXLink Fiber Transceivers Optical Modulation Amplitude (OMA): -4.3 dBm (min) Optical Modulation Amplitude (OMA) Sensitivity: -11.1 dBm (typ), -7.5 dBm (stressed)
Optical Transceiver Mean	-1 dBm (average power)

HDMI	
Output Connector	(1) HDMI Type A Female
Compatible Formats	HDMI, HDCP , DVI
Signal Type Support	HDMI DVI-D (single link with HDMI cable adapter)
Progressive Resolution Support	All progressive resolutions between 480p and 1920 x 1200 @ 60 Hz via automatic SmartScale query of the display's preferred EDID Detailed Timing Definition
Interlaced Resolution Support	480i, 576i, 1080i (including but not limited to those resolutions shown in the “Instruction Manual – DXLink Fiber Transmitters and Receivers” Note-Reminder: Interlace video supported into the Transmitter, progressive only supported out of the Receiver unless in non-scaling Bypass
Output Scaling	SmartScale or Manual Configuration or Bypass
3D Format Support	Yes, if Scaler on RX is set to Bypass mode Frame Packing 1080p 24Hz Frame Packing 720p 50/60Hz Frame Packing 1080i 50/60Hz Top-Bottom 1080p 24Hz Top-Bottom 720p 50/60Hz Side-by-Side Half 1080i 50/60Hz
Deep Color Support	24-bit, 30-bit, 36-bit 30-bit and 36-bit supported when the HDMI DXLink RX Scaler is in Bypass mode and format is 1080p60 or less
Color Space Support	RGB 4:4:4

	YCbCr 4:4:4 and 4:2:2 (Input signal support for YCbCr 4:4:4 and 4:2:2, output color-space is converted to RGB 4:4:4)
HDCP Support	Yes Supports AMX HDCP InstaGate Pro Technology When used with an Enova DGX Digital Media Switcher the key support is up to 16 sinks per output, independent of source device
CEC Support	None
Propagation Delay (Typical)	26 ms when scaling, 5.2 us when in Bypass mode
CDR (Re-Clocking)	Yes
Output Voltage (Nominal)	1.0 Vpp Differential
Output Rise Time / Fall Time	425 ps typ (20% - 80%)
Video Data Rate (Max)	4.95 Gbps / 6.75 Gbps 6.75 Gbps supported if Scaler on corresponding output board or DXLink Fiber RX is set to Bypass mode and format is 1080p60 or less
Video Pixel Clock (Max)	165 MHz / 225 MHz 225 MHz supported if Scaler on corresponding output board or DXLink Fiber RX is set to Bypass mode and format is 1080p60 or less
Audio Format Support	Dolby TrueHD, Dolby Digital, DTS-HD Master Audio, DTS, 2 CH through 8 CH L-PCM Dolby Digital and DTS support up to 48kHz, 5.1 channels
Audio Resolution	16 bit to 24 bit
Audio Sample Rate	32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192kHz
Local Audio Support	Extraction

ANALOG AUDIO	
Output Connections	3.5mm Mini-Stereo Jack
Output Signal Types	Stereo Analog
Output Level (Max)	TBA
Output Frequency Response	TBA
Audio THD+N	TBA
Audio S/N Ratio	TBA
Digital to Analog Reference Level	TBA
Audio Synchronization	Video formats @ 60Hz frame rate: video formats @ 60Hz frame rate: In scaling mode audio leads video by 12ms typ (4ms to 20ms). In Bypass mode, audio lags video by 14ms

USB (HID) KEYBOARD & MOUSE	
USB (HID)	(1) USB Mini A/B Connector; connect a keyboard & mouse and send commands to a PC connected to a DXLink Twisted Pair or Fiber TX

CONTROLS	
ID Pushbutton	Toggle between DHCP and static IP addressing Places system in NetLinx Device ID assignment mode Reset the factory default settings Restore the factory firmware image
Advanced Configuration Interface	(1) USB Mini-B Connector (“PROGRAM”)
Serial	(1) 3.5mm Pluggable Phoenix Terminal Block Bidirectional RS-232 Standard NetLinx Baudrate 1200-115k Parity support Odd/Even/None

IR RX	(1) 3.5mm Mini-Stereo Jack Port for IR03 Receiver (Optional)
IR TX	(1) 3.5mm Pluggable Phoenix Terminal Block Port for IR01 Emitter (Optional)

INDICATORS	
Power Indicator	(1) LED that lights: •Green during normal operation state •Red when power is applied and boot sequence is started •Yellow when system initialization is in process
Video Indicator	(1) Green LED indicates the presence of video and audio signals through the module
Audio Indicator	(1) Green LED indicates the presence of audio signals through the module
Scaling Button and LEDs	(1) Pushbutton and (3) Green LEDs; use Scaling button to select one of the three options: Bypass, Auto (SmartScale), or Manual. The factory default is Auto (SmartScale). If the RX power cycles, it defaults to the last persisted mode (achieved by pressing scaling button and holding it until the desired scaling mode LED flashes)
IR TX Indicator	(1) Red LED lights during the transmission of IR data via the rear IR port
IR RX Indicator	(1) Yellow LED lights during the receipt of IR data via the rear IR port
RS-232 TX Indicator	(1) Red LED shows serial transmit (TX) data activity
RS-232 RX Indicator	(1) Yellow LED shows serial receive (RX) data activity
LINK/ACT	(1) Green LED lights when the Ethernet cable is connected and an active link is established. This LED also blinks when receiving Ethernet data packets
Status	(1) Green LED lights when the Controller is programmed and communicating properly
CEC Indicator	Not currently supported
USB Indicator	(1) Yellow LED lights when either a Keyboard or mouse is connected directly to the RX, or either and/or both are connected to a USB Hub connected to the RX
ID Pushbutton	Places system in NetLinx Device ID assignment mode

FRONT CONNECTORS	
Advanced Configuration Interface	(1) USB Mini-B Connector

BACK CONNECTORS	
Local Power	TBA
DXLink Fiber Input	LC Duplex conforming to ANSI TIA/EAI 604-10 (FOCIS 10A)
ICS LAN/Ethernet Port	RJ-45 Connector, TCP/IP Port (ICS LAN 10/100)
Serial	3.5mm Pluggable Phoenix Terminal Block Bidirectional RS-232 Standard NetLinx Baudrate 1200-115k Parity support Odd/Even/None
IR RX	(1) 3.5mm Mini-Stereo Jack Port for IR03 Receiver (Optional)
IR TX	(1) 3.5mm Pluggable Phoenix Terminal Block Port for IR01 Emitter (Optional)

USB (HID) Keyboard & Mouse	(1) USB Mini A/B Connector; connect a keyboard & mouse and send commands to a PC connected to a DXLink Twisted Pair or Fiber
HDMI Output	HDMI Type A Female
Analog Stereo Output	3.5mm Mini-Stereo Jack

For a detailed pictorial drawing please visit: http://www.amx.com/products/DXLF-HDMIRX-MM-D.asp

About AMX
AMX hardware and software solutions simplify the implementation, maintenance, and use of technology to create effective environments. With the increasing number of technologies and operating platforms at work and home, AMX solves the complexity of managing this technology with reliable, consistent and scalable systems. Our award-winning products span control and automation, system-wide switching and audio/video signal distribution, digital signage and technology management. They are implemented worldwide in conference rooms, homes, classrooms, network operation / command centers, hotels, entertainment venues, broadcast facilities, and more. ©2013 AMX. All rights reserved.
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